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ACC NEWS

President's Page: Acute Coronary Care: The Yardstick of Value

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In an era of rapidly increasing societal costs for medical care, our profession is asked more and more to provide evidence for the *value of care*. Cardiovascular disease is the leading cause of mortality in the Western world, and its incidence is increasing rapidly in developing countries. Cardiology is the most prominent specialty that treats acutely ill patients, and our care involves costly cognitive and technical components. Accordingly, cardiovascular medicine is a particularly attractive target for intense scrutiny of the value of care.

CHOOSING THE YARDSTICKS

Metrics involved in constructing a value yardstick vary depending on the stakeholder. Institutions, physicians, society, patients and their families all represent important stakeholders in this discussion. For institutions and physicians, the metrics available for assessing the value of care have been studied more rigorously for cardiovascular disease than for any other disease. Widely accepted guidelines for acute myocardial infarction have been published and are continually updated by the College. These guidelines include pre-hospital care and triage, in-hospital treatment, nursing, reperfusion strategies, risk stratification, post-hospital care, and secondary prevention. Adherence to the guidelines can be measured and outcomes assessed, including morbidity, mortality, and costs. The metrics used to measure quality in acute coronary care include early and long-term morbidity/mortality, resource utilization, length of stay, return to work or full activity, and patient and family satisfaction. These outcome measures are increasingly available to third-party payers and the public.

DATA REVEAL VALUE

As we think about the impact of our cardiovascular performance on outcomes for patients, their families, and society alike, what are the observations that could be made?

Regardless of the metrics used, patients, families and society have benefited enormously. Cardiovascular mortality has dropped significantly in the past 10 to 20 years. In data available from 1979 to 2003, the death rate in men fell from 490 deaths per thousand to 440 deaths per thousand (American Heart Association statistics) (1). This drop occurred despite the fact that the population grew older with an increasing incidence of obesity and diabetes.

Modern cardiovascular care has been responsible for a large decrease in hospital mortality from acute ischemic events. Randomized trials in the 1980s typically documented in-hospital mortality rates of 8% to 10% compared with more recent trials in which mortality rates of <5% are frequently observed. Even in the highest-risk patients, those with cardiogenic shock, mortality has decreased over the past two decades from between 80% and 90% to approximately 50%. Again, it must be kept in mind that these improvements have occurred despite treating older and sicker patients.

MODERN CARE IMPROVES OUTCOMES

A particularly dramatic change has been the improved outcomes and decreased risk of intracerebral hemorrhage in patients treated with primary percutaneous intervention. This change has fostered the development of regional networks and centers that emphasize expert cardiovascular care and have a major objective of improving outcome by optimizing the process of care. A good example is the positive impact of decreasing door-to-balloon time. With acute myocardial infarctions (MIs), the use of drug-eluting stents has dramatically reduced the need for subsequent procedures to treat restenosis.

Prior to modern cardiac care, patients were put on bed rest for several weeks after MI, which exposed them to multiple risks—some medical, such as a pulmonary embolism or hospital-acquired pneumonia. Other risks were financial, such as loss of a job. Today, after an acute MI, the majority of patients can be discharged within three to four days. The pace of re-entry into full life often occurs within a few weeks.

Other equally dramatic advances have occurred. In patients with large MIs accompanied by congestive heart failure, selected patients have marked improvement in functional outcome when they are treated with cardiac resynchronization therapy. In some patients with myocardial infarction and decreased left ventricular ejection frac-

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tion, implantation of a defibrillator can significantly improve survival by treating lethal ventricular arrhythmias.

These seminal advances in the treatment of acute cardiovascular disease have been hard won and have required time, energy, and evidence-based randomized clinical trials. Of equal importance, they required the full participation of society and patients as new approaches were tested and validated.

Whether we measure in-hospital morbidity and mortality, improved methods for the restoration of arterial patency, shortened length of stay, or prevention of sudden cardiac death or congestive heart failure, we have successfully delivered modern cardiovascular care to millions of patients. The future looks even brighter with new approaches for optimizing myocyte recovery/repair, development of networks to guarantee rapid access to all patients with acute myocardial infarction, and prevention of the initial trigger of the event.

In terms of impact on society, acute coronary care represents the ultimate expression of value in medical care, an observation that must not be forgotten in the current push to constrain costs and increase value. We must remind legislators, government officials, and payers of the true costs of not having an experienced dedicated cardiology care team available when they or their loved ones have their own MI.

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